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Jay Rossiter

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EXAMINER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/762,949
Filing Date: January 21, 2004
Appellant(s): ROSSITER ET AL.

Daniel D. Ledesma, Attorney
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed August 31, 2007 appealing from the Office action mailed November 3, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,606,693	NILSEN et al.	2-1997
5,627,994	LEVY et al.	5-1997

Schleipfer, Stefan, "The ServOS Kernel: A Special-Purpose Operating System Kernel for Server Machines" 1990 IEEE

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 5, 6, 8 – 9, 11, 16 – 18, 20 – 24, 26, 31 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,606,693 issued to Kenneth Nilsen et al. (“Nilsen”) and in view of “The ServOS Kernel” by Stefan Schleipfer (“Schleipfer”).

With respect to claim 1, Nilsen teaches a database appliance, comprising: a database server; an operating system having a set of components that include some, but not all, components of an operating system, whose configuration is dictated based on a set of services required by the database server (see abstract, column 2, lines 15 – 35) and a self-configuration module that is capable of performing the steps of detecting an environment in which the database appliance is being used; and configuring the database appliance based upon the detected environment (Nilsen: column 3, lines 60 – 65).

Nilsen does not explicitly teach the special purpose operating system and the general purpose operating system as claimed.

Schleipfer discloses claimed special purpose operating system and the general purpose operating system (see abstract).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 121; Schleipfer).

With respect to claim 16, Nilsen teaches a method for constructing a database appliance, comprising: installing, on a computer readable medium accessible to one or more processor, a database server (column 3, lines 50 – 65); and an operating system wherein the set of components include some, but not all, components of a general purpose operating system, wherein configuration is dictated based on a set of services (see abstract, column 2, lines 15 – 35).

Nilsen does not explicitly teach the special purpose operating system and the general purpose operating system and that the general purpose operating system that are not required to provide said set of services to the database server as claimed.

Schleipfer discloses claimed special purpose operating system and the general purpose operating system (see abstract) and the general purpose operating system that are not required to provide said set of services to the database server (page 124, right hand column, lines 26 – 29).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 121; Schleipfer).

With respect to claim 2, the Language, “wherein the database server was generated from another database server **by modifying the code** of the other database server **to optimize the code** for execution on said database appliance” is a recitation

of an intended use in a claim directed to an Apparatus. Such language suggests that the method step be performed but does not actually require the step to be performed because the claimed invention is not directed to a method. As a result, it carries no patentable weight (see MPEP 2106 [R – 3]. II.C subsection c).

As to claim 17, the database server was generated from another database server by modifying the code of the other database server to optimize the code for execution on said database appliance (Nilsen: column 3, lines 60 – 65).

As to claims 3 and 18, the hardware for said database appliance is selected and configured to optimize performance of one or more services to be performed by the database server (Nilsen: column 3, lines 60 – 65).

As to claims 5 and 20, the database server is a special purpose database server, wherein features and configuration of the special purpose operating system are dictated by the special purpose database server and supporting components (Nilsen: column 3, lines 60 – 65), and wherein the special purpose database server is specially adapted based upon the services required by a specific type of database usage (Nilsen: column 2, lines 15 – 35).

As to claims 6 and 21, the special purpose operating system performs process scheduling based on shares of CPU time (see abstract; Nilsen).

As to claim 22, a self-configuration module that is capable of performing the steps of detecting an environment in which the database appliance is being used; and configuring the database appliance based upon the detected environment (Nilsen: column 3, lines 60 – 65).

With respect to claims 8 and 23, the special purpose operating system employs a micro kernel and an associated service module (Nilsen: column 3, lines 43 – 60).

With respect to claims 9 and 24, Nilsen does not explicitly teach the database server includes a mechanism for reading resource information within an address space of a kernel of the operating system without causing a context switch to the operating system kernel address space as claimed.

Schleipfer discloses claimed database server that includes a mechanism for reading resource information within an address space of a kernel of the operating system without causing a context switch to the operating system kernel address space (Schleipfer: section 3, pages 121 – 122 and page 124, right hand column, lines 32 - 38).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 121; Schleipfer).

With respect to claims 11 and 26, Nilsen teaches database appliance is configured with an amount of resources dedicated to computational services that is based upon whether said specific type of database usage is an online transaction processing application (see Figure 1 and column 3, lines 60 – 65; Nilsen).

Nilsen does not explicitly indicate that the database application is an OLTP and that the configuration is done by dedicating more resources to I/O services.

Schleipfer teaches a configuration database similar to the one of Nilsen and that the database application is an OLTP (see sections 4.1 and 4.2 of Schleipfer) and that the configuration is done by dedicating more resources to I/O services (see section 4.6 of Schleipfer).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 121; Schleipfer).

With respect to claims 31 and 33, the step of modifying the general purpose operating system includes adding or removing one or more features to the general purpose operating system, and wherein the one or more features are used to provide said set of services to the database server (Schleipfer: page 122, right hand column, line 28 – page 123, left column, line 20).

Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsen in view of Schleipfer as applied to claim 1 and 16 above, and further in view of U.S. Patent Number 5,627,994 issued to Hanoch Levy et al. ("Levy").

With respect to claims 4 and 19, Nilsen and Schleipfer disclosed a database appliance, comprising: a database server; and a special purpose operating system, generated by modifying a general purpose operating system, whose configuration is

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dictated based on a set of services required by the database server and further teaches the hardware for said database appliance selection and configuration as discussed above.

Nilsen and Schleipfer do not explicitly teach to optimize a cache-hit ratio experienced by the database appliance as claimed.

Levy discloses claimed optimization of a cache-hit ratio experienced by the database appliance (see abstract, column 5, lines 6 – 18, 47 – 55).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Levy with Nilsen and Schleipfer to provide a method for allocating request streams and memory resources to a cache architecture, in such a way as demonstrably to improve or to optimize system performance, as measured by the hit ratio.

Allowable Subject Matter

Claims 10 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(10) Response to Argument

Appellant's main arguments regarding the rejections of claims 1 – 6, 8, 9, 11, 16 – 24, 26, 31 and 33 are:

Argument No. 1: The combination of Nilsen and Schliepfer fails to teach or suggest the database appliance of claim 1 (Page 6, Brief).

Argument No. 2: Nilsen fails to disclose the self-configuration module of claim 1 (Page 7, Brief).

Argument No. 3: No portion of Nilsen discusses configuring a database appliance as claimed (Page 7, Brief).

Argument No. 4: Since Schliepfer and Nilsen individually do not show multiple features of claim 1, it follows that the combination of Schliepfer and Nilsen also fails to disclose, teach or suggest the multiple features of claim 1 (Page 8, Brief).

Argument No. 5: Nilsen lacks any teaching or suggestion of "removing one or more features of a general purpose operating system that are not required to provide a set of services to the database server" as Claim 16 requires.

Examiner's Response to Arguments:

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Applicant teaches in his specification that database appliance 110 is a machine configured to execute a database server 112. Database appliance 110 includes a database server 112 and operating system 114 executing on hardware 116. However, unlike conventional database implementations, the operating system 114 executing on database appliance 110 is a special purpose operating system tailored specifically for executing database server 112. (see page 9 of the specification).

In response to Argument No. 1:

In response to Appellant's argument, Nilsen teaches a system that relates to information processing system for maintaining databases (column 1, lines 10 – 14), whereas Schleipfer teaches a system that relates to general purpose distributed operating systems. **Schleipfer** strongly teaches this limitation (see page 124, right hand column, 4th paragraph and further see the abstract). Schleipfer further teaches a special purpose operating systems (see page 121). Nilsen teaches configuration controller that manages the process through which data is logged from a workstation to

database server (column 3) and Schleipfer teaches to configure a server machine and to change a configuration dynamically (page 121).

In response to Argument No. 2:

In response to Appellant's argument, Nilsen teaches a system that has database server and configuration controller, the configuration controller contains configuration data (see column 3, lines 21 – 65 and Figure 1).

In response to Argument No. 3:

In response to Appellant's argument, Nilsen teaches a system that has database server and configuration controller, the configuration controller contains configuration data (see column 3, lines 21 – 65 and Figure 1). The configuration data showing how many database servers are available and how they are to be accessed. The database server also maintains configuration information.

In response to Argument No. 4:

In response to Appellant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Nilsen teaches configuration controller that manages the process through which data is logged from a workstation to database server (column 3) and Schleipfer teaches to configure a server machine and to change a configuration dynamically (page 121).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Schleipfer with Nilsen to increase the ease and efficiency of the configuration management task in a distributed computer systems. The ServOS kernel of Schleipfer takes simpler solutions where problems are easier to solve on server machines and it further gives the server modules a higher-level OS support (see page 121; Schleipfer).

In response to Argument No. 5:

In response to Appellant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). This rejection is in combination of Schleipfer and Nilsen. Schleipfer teaches distributed computer systems consisting of dedicated user and server machines and operating system (OS) that support to server modules loaded on server machines. A special purpose OS and a general purpose operating system are discussed.

In ServOS, the kernels and the base system use a state model for server module that differs from the state model for normal program executions supported by general-purpose OSs. Server modules are long-term existing objects managed by the base

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system and the kernels. The base system provides operations for creating and deleting them (page 122 – 123).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,


Shahid Al Alam

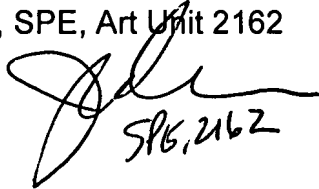
Primary Patent Examiner, Art Unit 2162

November 26, 2007

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